ORDER NO. AD8905118C2

Service Manual

Tuner

QUARTZ Synthesizer
AM/FM Stereo Tuner

ST-X999

Color

(K)...Black Type

Area

Country Code	Area	Color
(EG)	F. R. Germany & Italy	(K)

SPECIFICATIONS

(DIN 45 500)

■ FM TUNER SECTION

Frequency range	87.50~108.00 MHz (0.05 MHz-steps)
Sensitivity	1.5 µV (IHF, usable)
S/N 30 dB	1.3 µV (75Ω)
S/N 26 dB	1.2 µV (75Ω)
S/N 20 dB	0.9 µV (75Ω)
IHF 46 dB stereo quieting sensitivity	28 µV / 75Ω
Total harmonic distortion	
MONO	0.15%
STEREO	0.3%
S/N	
MONO	70 dB (78 dB,IHF)
STEREO	65 dB (71 dB,IHF)
Frequency response	20 Hz ~ 15 kHz, +0.5 dB ~ -1.5 dB
Alternate channel selectivity	
±400 kHz	70 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	90 dB
IF rejection at 98 MHz	90 dB
Spurious response rejection at 98 MHz	90 dB
AM suppression	55 dB
Stereo separation	
1 kHz	40 dB
Carrier leak	
19 kHz	−70 dB (−80 dB, IHF)
38 kHz	−75 dB (−80 dB, IHF)
Channel balance (250 Hz ~ 6,300 Hz)	±1.2 dB
Limiting point	1.0 µV
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	75Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	
MW	522 kHz ~ 1611 kHz (9 kHz-steps) 530 kHz ~ 1620 kHz (10 kHz-steps)
Sensitivity (S/N 20 dB)	
MW	20 µV,300 µV/m
Selectivity (± 9 kHz)	
MW (at 999 kHz)	55 dB
Image rejection	
MW (at 999 kHz)	40 dB
IF rejection	
MW (at 999 kHz)	60 dB

■ TIMER SECTION

Clock	Quarz-lock type 24-hour indication
Precision	Within 0 sec.~±10 sec. monthly (at 25°C)
Functions	24-hours programmable weekly (1 setting) once only (1 setting) sleep (at 10~60 min. 10-min. intervals)
Programmable content	Program source (FM, MW) Power ON/OFF setting Designation of preset station
Setting intervals	1 minute ~23 hours,59 minutes (at 1-min.intervals)
Priority order	sleep, once, weekly

■ GENERAL

Output voltage	0.5 V (1.0 V, IHF)
Power consumption	9W(clock 5W)
Power supply	AC 50 Hz/60 Hz,220V
Dimensions (W x H x D)	360 x 64.5 x 288 mm (14-3/16" x 2-17/32" x 11-11/32")
Weight	2.1 kg (4.6 lb.)

Specifications are subject to change without notice.
Weight and dimensions are approximate.

Technics

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan

ST-X999

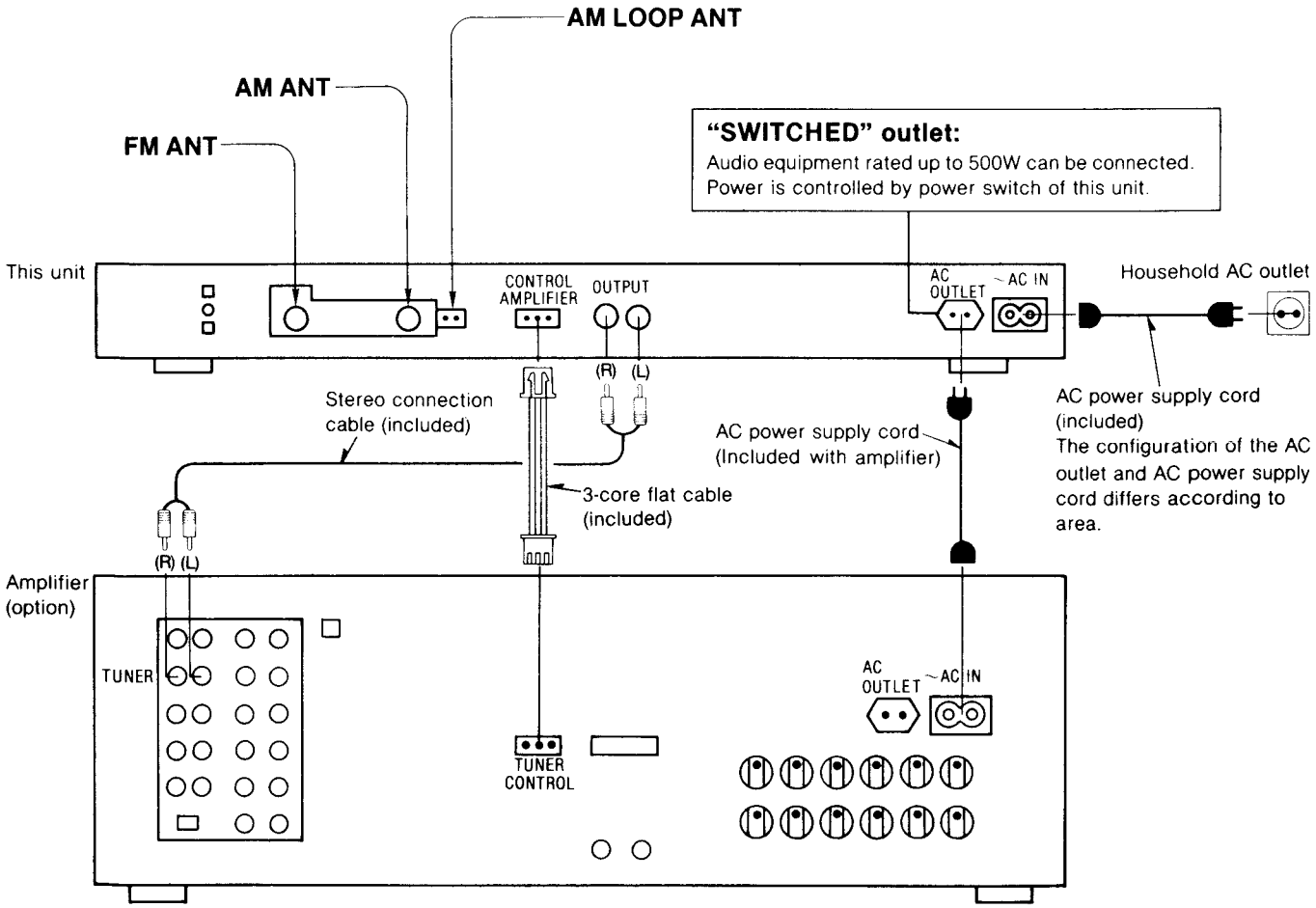
■ CONTENTS

	Page
ACCESSORIES	2
CONNECTIONS	2
LOCATION OF CONTROLS	3
DISASSEMBLY INSTRUCTIONS	4, 5
MEASUREMENTS AND ADJUSTMENTS	6, 7
BLOCK DIAGRAM	8, 9
SCHEMATIC DIAGRAM	10~13
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES	14
CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM	14~16
FUNCTIONS OF IC TERMINALS	17
DESCRIPTION OF FL PANEL	18
RESISTORS AND CAPACITORS	19~21
REPLACEMENT PARTS LIST	21~23
EXPLODED VIEWS	24

■ ACCESSORIES

- Stereo connection cable (SJPK2203-1) 1
- FM indoor antenna (SSA270M) 1
- AM loop antenna (SPB1162T) 1
- AM antenna holders (SMA233-1M) 1
  (SMA231M) 1
- Screws (XTB3+10AFZ) 2
- 3-core flat cable (SWKTX930E) 1
- AC power supply cord (SFDAC05E03) 1
- Remote-control transmitter (EUR64754) 1
- Batteries (R03) 2

■ CONNECTIONS



QUARTZ Synthesizer
MW/FM Stereo Tuner

ORDER NO. AD8905118C2-A

DEUTSCH

Tuner

ST-X999

■ MESSUNGEN UND JUSTIERUNGEN

UKW JUSTIERUNGEN

Einstellungen der Bedienelemente und zu verwendende Geräte.

- UKW-Messender(UKW-MS)
- Stereo-Modulator
- Verzerrungs-Analystator
- Elektronische Gleichstrom-Voltmeter(EVM)
- Frequenzzähler
- Drosselspule(100μH)
- Widerstand(100kΩ)

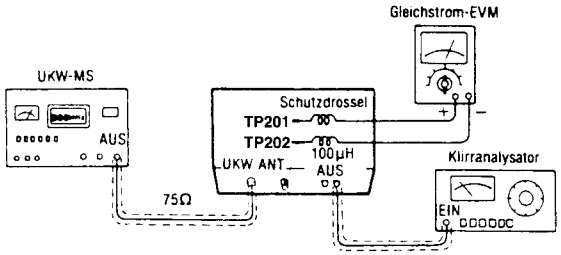
Anmerkung: Für Z201, Z202, L321 und L322 werden bereits justierte Ersatzteile geliefert. Die Kerne dieser Teil daher nicht drehen.

UKW-MONO-VERZERRUNGS-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Stellen Sie die Einheit auf **"FM(UKW)"** Betrieb.
3.Die Radiofrequenzanzeige und den Messender auf **100.10MHz** einstellen.
4.Den Kern von **T201** so justieren, daß die im Signalzustand gemessene Spannung **0mV (0±20mV)** im 300mV-Bereich beträgt.
5.**T202** so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
6.Schritte 4 und 5 einige Male wiederholen.
7.Versichern Sie sich, daß die Verzerrungsfaktoren von Kanal L und Kanal R annähernd gleich sind und auf ein Minimum gehalten sind.

Anmerkung:
Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

ZUSTAND DES UKW-MESSENDERS
Modulation 100%
Modulationsfrequenz 1kHz
Ausgangspegel 66dB



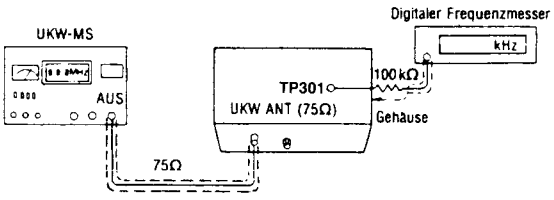
MPX-SGO-JUSTIERUNG

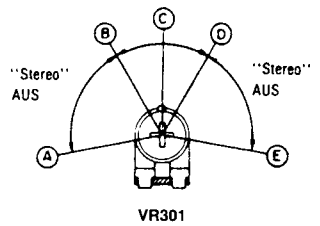
1.Der Testaufbau ist in der Abbildung gezeigt.
2.Den UKW-Bertriebsart-Wahlshalter in die **"on/auto"**-Position stellen.
3.Radio und Meßsender auf **100.10MHz** einstellen.
4.**VR301** auf **19kHz ± 30Hz** auf der Frequenzzähleranzeige justieren.

● VERWENDUNG EINES ALTERNATIVSYSTEMS

1.Stereosignal vom Meßsender eingeben oder eine Stereo-Sendung empfangen.
2.**VR301** justieren, bis die Stereo-Anzeige aufleuchtet. Den Arm von **VR301** mit Lack sichern, wie in der Abbildung gezeigt.

ZUSTAND DES UKW-MESSENDERS
Modulation 100%
Modulationsfrequenz 0kHz
Ausgangspegel,.....66dB



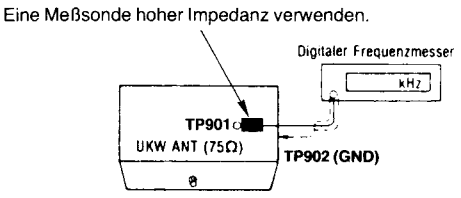


VR301

Ⓐ－Ⓑ,
Ⓓ－Ⓔ..... "Stereo" AUS Stellung
Ⓑ－Ⓓ..... "Stereo" EIN Stellung (Anzeigebeleuchtung)
Ⓒ..... Einstellpunkt des pilotschaltkreis'

ELNSTELLUNG DER PHASENSPERRUNG EINES SCHLEIFENVERSCHIUSSES

1.Der Anschluß der Testausrüstung ist in der Abbildung dargestellt.
2.**TP903** und **TP904** überbrücken.
3.**CT901** unter Beobachtung des Frequenzzählers auf **524,288 kHz±10 Hz** einstellen.
4.Nach der Einstellung die Überbrückung zwischen **TP903** und **TP904** entfernen.
5.Den Netzschalter ausschalten.

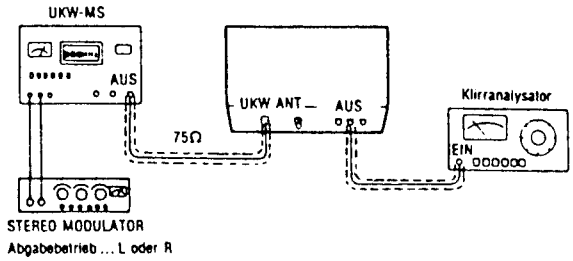


UKW STEREO KLIRRFAKTOR-JUSTIERUNG

1.Der Testaufbau ist in der Abbildung gezeigt.
2.Stellen Sie die Einheit auf **"FM(UKW)"** Betrieb.
3.Die Radiofrequenzanzeige und den Messender auf **100.10MHz** einstellen.
4.**L1** so justieren, daß der Verzerrungsfaktor des linken Kanals minimal wird.
5.überprüfen, daß die Verzerrungsfaktoren des linken und rechten Kanals fast gleich sind.

Anmerkung:
Für die Justierung ist ein Schraubendreher aus Kunststoff zu verwenden.

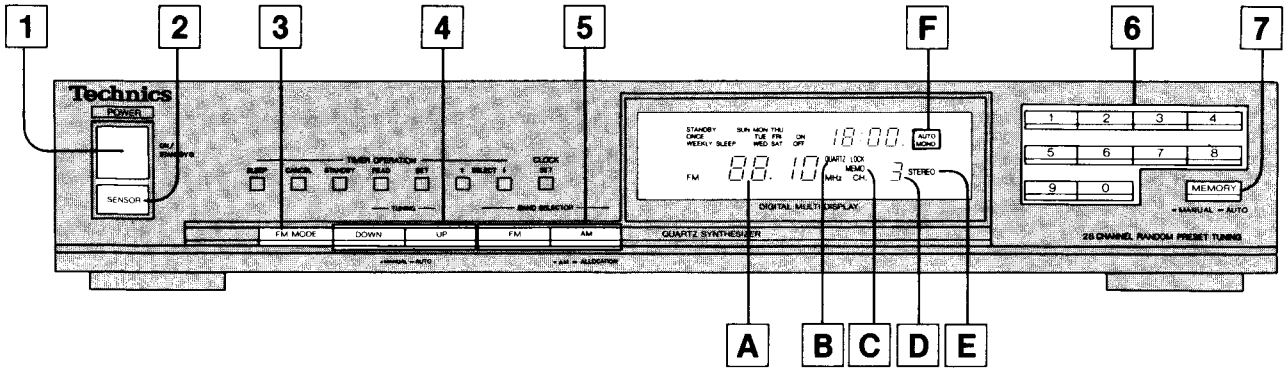
ZUSTAND DES UKW-MESSENDERS
Modulation .....”L”order ”R” Betriebsart 90%,Pilotssignal 10%
Modulationsfrequenz .....1kHz(Pilot 19kHz)
Ausgangspegel 66dB



Printed in Japan
F890502,100 TW/FF/YY

■ LOCATION OF CONTROLS

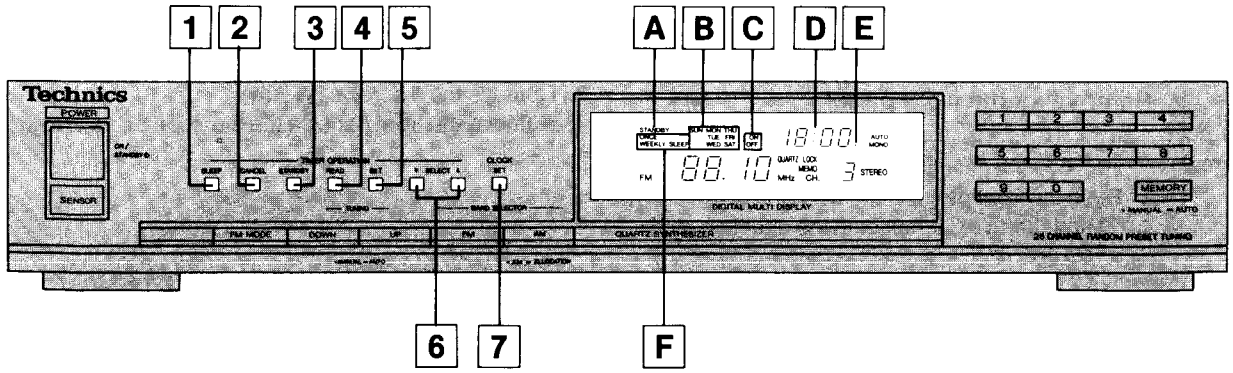
Tuner section



1 Power "STANDBY ⏻/ON" switch (POWER "ON/STANDBY ⏻")
2 Remote-control signal receptor (SENSOR)
3 FM mode selector (FM MODE)
4 Tuning buttons (TUNING)
5 Band selectors (BAND SELECTOR)
6 Preset-tuning buttons (1–0) (28 CHANNEL RANDOM PRESET TUNING)
7 Memory button (MEMORY)

A Digital frequency display
B Quartz-lock indicator (QUARTZ LOCK)
C Memory indicator (MEMO)
D Channel display
E FM stereo indicator (STEREO)
F FM mode indicators

Timer section

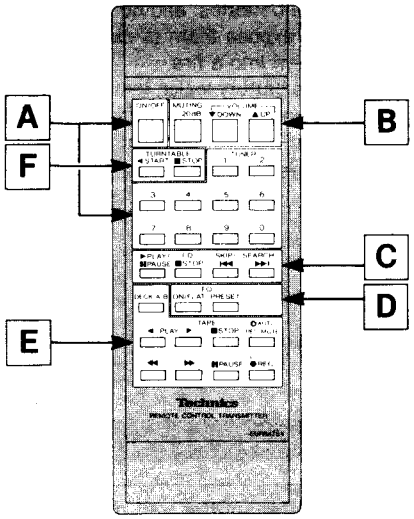


1 Sleep button (SLEEP)
2 Cancel button (CANCEL)
3 Stand-by button (STANDBY)
4 Read button (READ)
5 Set button (SET)
6 Select buttons (SELECT)
7 Clock set button (CLOCK SET)

A Stand-by indicator (STANDBY)
B Day display
C Timer ON/OFF indicator (ON/OFF)
D Time display
E Colon indicator
F Timer-mode indicator (ONCE/WEEKLY/SLEEP)

※The operating procedures and features are similar to those for and of the ST-X990.

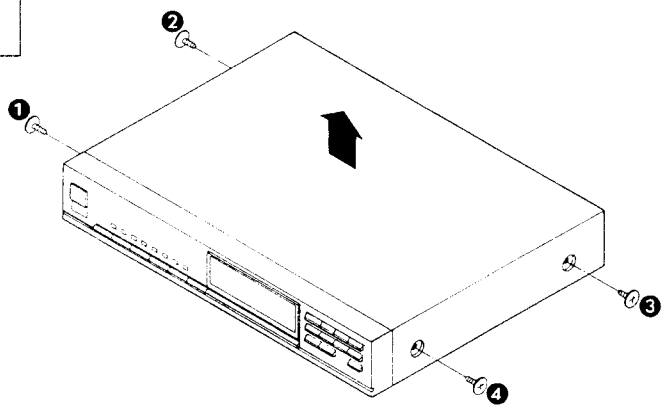
•Remote control transmitter (EUR64754)



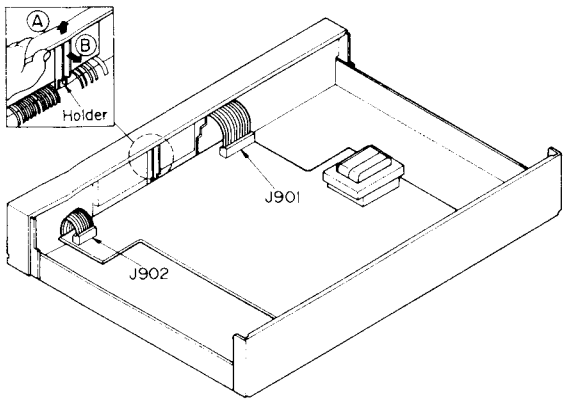
A	Tuner keys
B	Amplifier keys
C	Compact disc player keys
D	Graphic equalizer controls
E	Cassette tape deck keys
F	Turntable keys

■ DISASSEMBLY INSTRUCTIONS

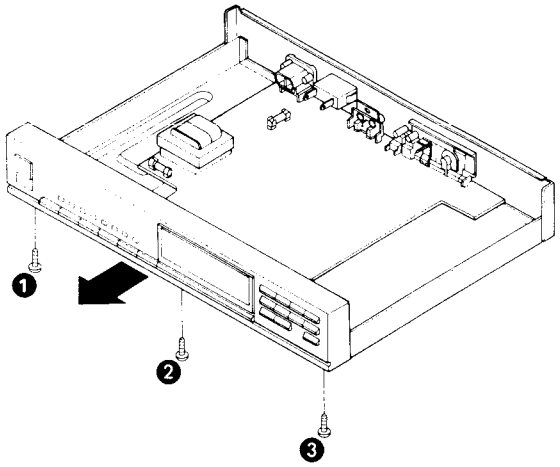
Ref. No. 1	Removal of the cabinet
Procedure 1	•Remove the 4 screws (❶~❹).



Ref. No. 2	Removal of the front panel
Procedure 1→2	1. Remove the flat cable (J901, J902). 2. Push the front panel in the direction of the arrow Ⓐ and remove the holder in the direction of the arrow Ⓑ.

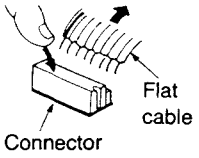


3. Remove the 3 screws (❶~❸).
4. Remove the front panel in the direction of the arrow.

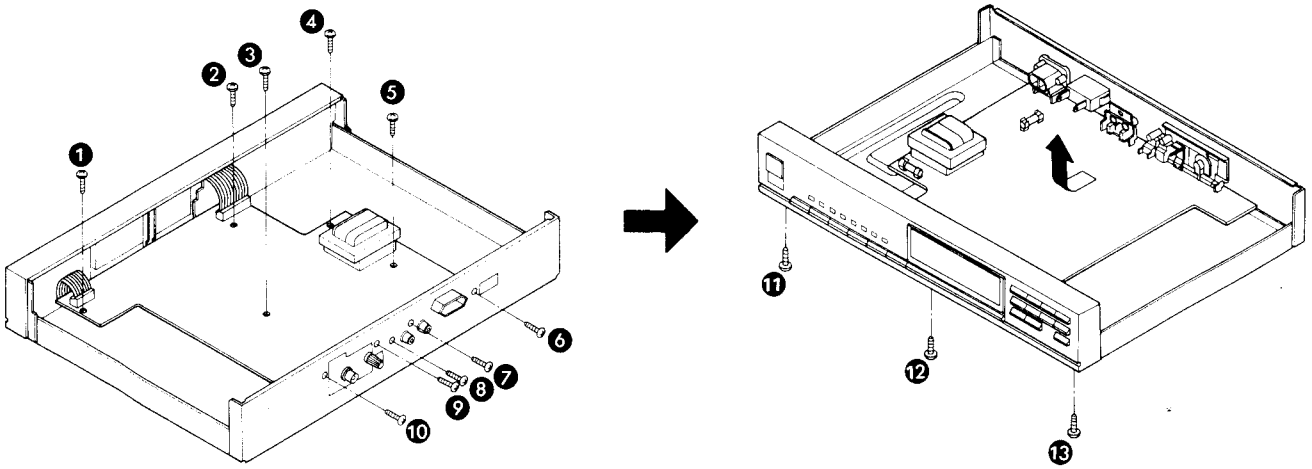


Removal of the flat cable

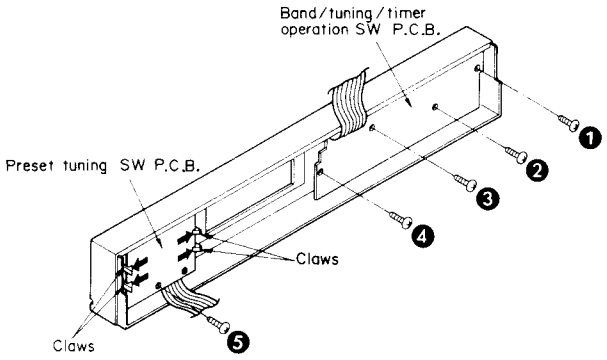
Pull out the flat cable while pressing the connector



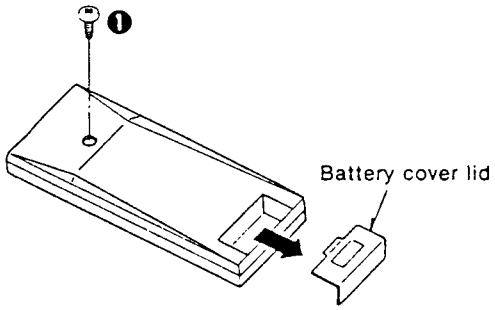
Ref. No. 3	**Removal of the main P.C.B.**
Procedure 1→3	1. Remove the 10 screws (❶~❿). 2. Remove the 3 screws (⓫~⓭). 3. Slightly pull the front panel toward you and remove the main P.C.B.

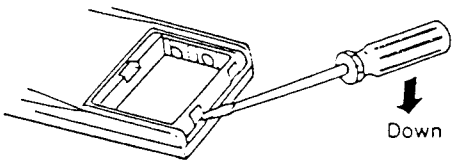


Ref. No. 4	**Removal of the preset tuning SW P.C.B. and band/tuning/timer operation SW P.C.B.**
Procedure 1→2→4	1. Remove the 4 screws (❶~❹). 2. Remove the band/tuning/timer operation SW P.C.B. 3. Remove the 1 screw (❺). 4. Push the 4 claws and remove the preset tuning SW P.C.B.



Ref. No. 5	**Removal of the remote control**
Procedure 5	1. Remove the battery cover lid. 2. Remove the one screw (❶). 3. Insert a screwdriver blade between the upper and lower covers inside the battery compartment and them slowly loosen the bottom cover.





■ MEASUREMENTS AND ADJUSTMENTS

FM ADJUSTMENT

Control positions and equipment used

- FM signal generator(FM-SG)
- Stereo modulator
- Distortion analyser
- DC electronic voltmeter(EVM)
- Frequency counter
- Choke coil(100μH)
- Resistor(100kΩ)

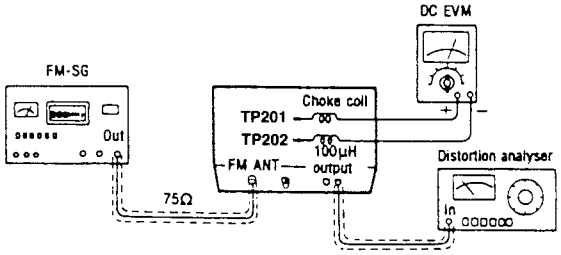
Note: For Z201 (AM-ANT/OSC), Z202 (AM-IFT), L321 (L.P.F) and L322 (L.P.F), they are supplied as adjusted parts. So, do not turn the cores of the parts.
It is not necessary to adjust the AM circuit.

FM MONO DISTORTION ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "**FM**" mode.
3. Set the radio frequency display and signal generator to **100.10MHz**.
4. Adjust the core of **T201** so that the voltage measured in signal mode is **0mV(0±20mV)** in 300mV range.
5. Adjust **T202** so that the distortion factor of L-CH is minimized.
6. Repeat steps 4 and 5.
7. Make sure that the distortion factors of L-CH and R-CH are nearly the same and minimum.

Note: The adjusting screwdriver used should be made of resin.

FM SIGNAL GENERATOR CONDITION
Modulation 100%
Modulation frequency 1kHz
Output level.....66dB



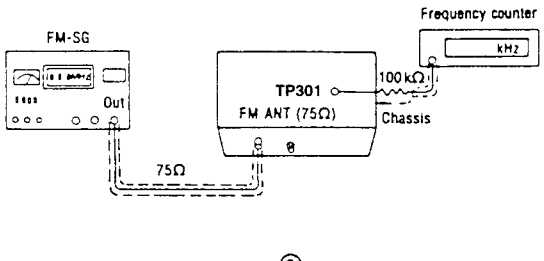
MPX VCO ADJUSTMENT

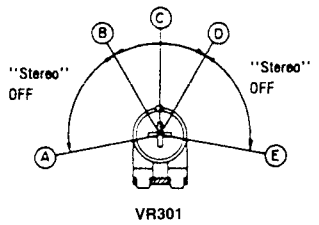
1. Test equipment connection is shown in figure.
2. Set the unit to "**on/auto**" position.
3. Set the radio frequency display and signal genarator to **100.10MHz**.
4. Adjust **VR301** for **19kHz±30Hz** on frequency counter reading.

USING ALTERNATE SYSTEM

1. Receive the stereo broadcast.
2. Adjust **VR301** until stereo indicator lights up. Fix the arm of **VR301** as shown in figure.

FM SIGNAL GENERATOR CONDITION
Modulation 100%
Modulation frequency 0kHz
Output level.....66dB

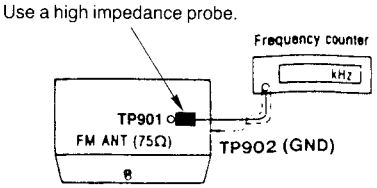




Ⓐ−Ⓑ,
Ⓓ−Ⓔ..... "Stereo" OFF position
Ⓑ−Ⓓ..... "Stereo" ON position
(Indicator lighting)
Ⓒ..... Adjust point of pilot circuit

PLL CLOCK FREQUENCY ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Short **TP903** and **TP904**.
3. Adjust **CT901** for **524.288kHz±10Hz** on frequency counter reading.
4. After the adjustment, open up the shorting between **TP903** and **TP904**.
5. Turn off the power switch.

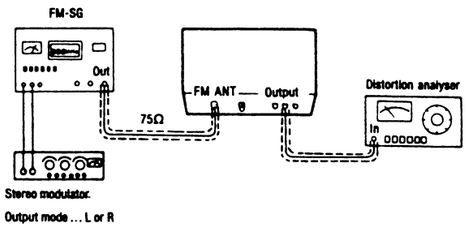


FM STEREO DISTORTION ADJUSTMENT

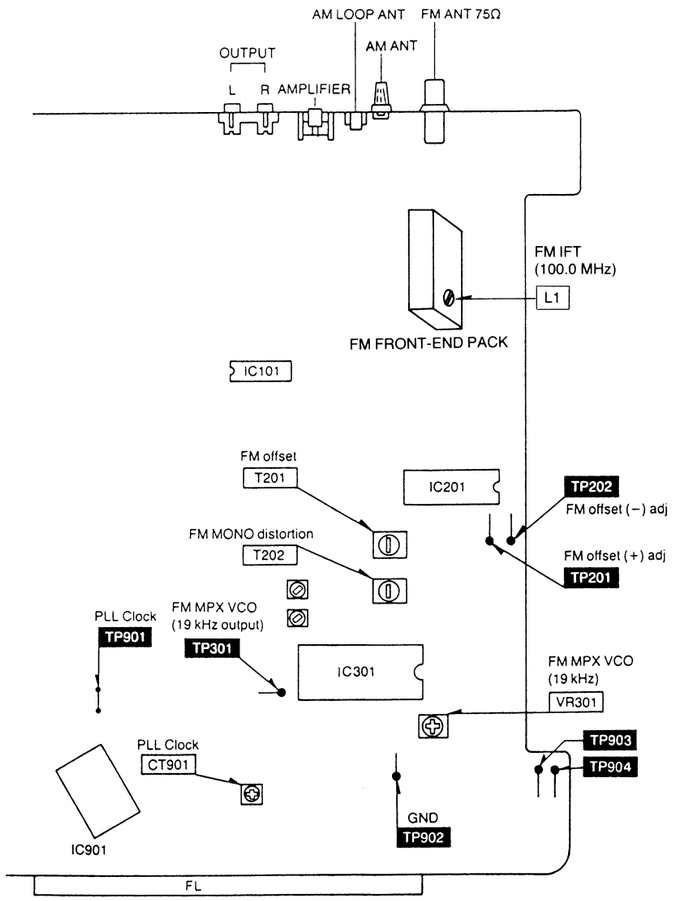
1.Test equipment connection is shown in figure.
2.Set the unit to **"FM"** mode.
3.Set the radio frequency display and signal generator to **100.10MHz**.
4.Adjuste **L1** so that the distortion factor of L-CH is minimized.
5.Make sure that the distortion factors of L-CH and R-CH are nearly the same and minimum.

Note: The adjusting screwdriver used should be made of resin.

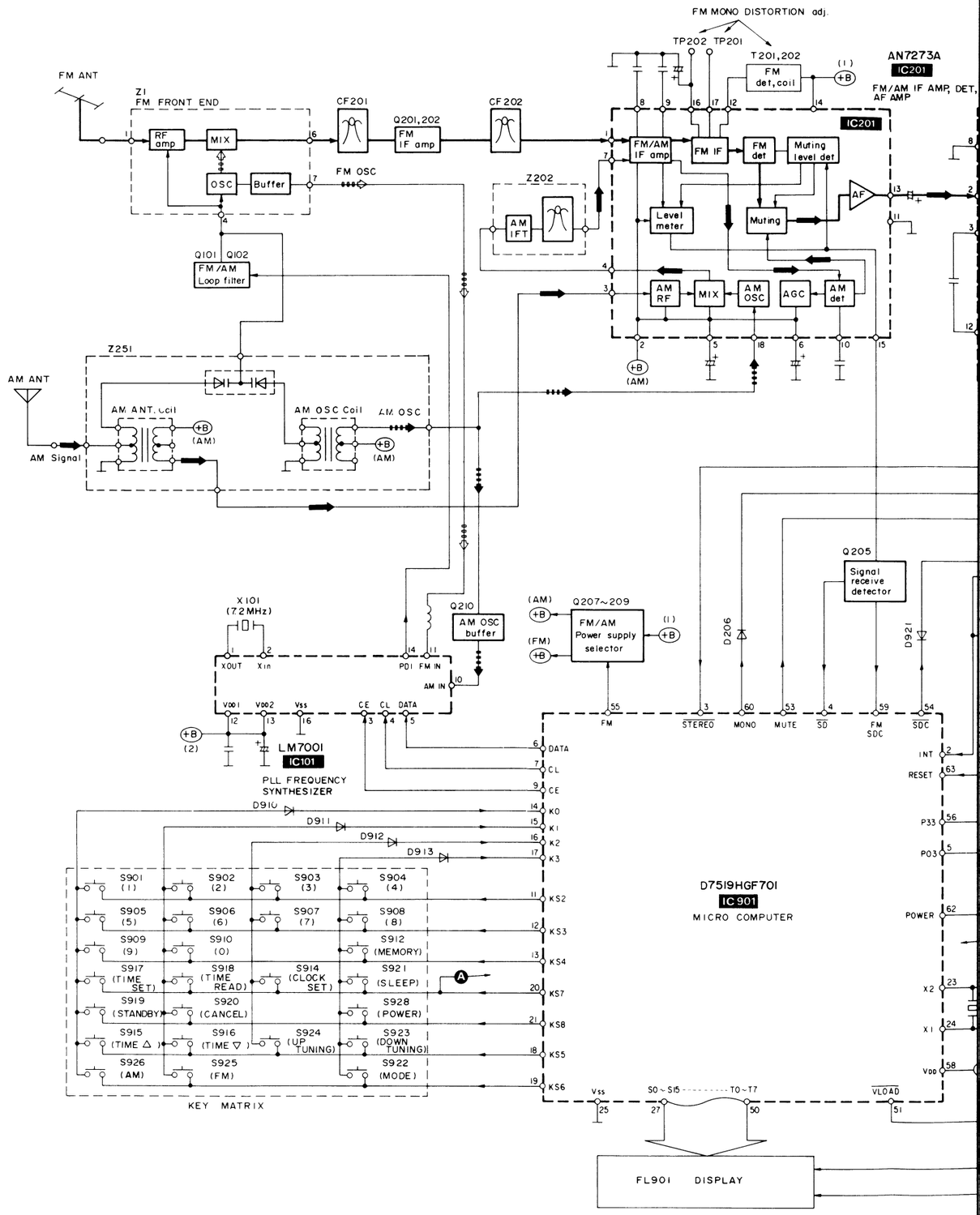
FM SIGNAL GENERATOR CONDITION
Modulation ..... "L" mode or "R" mode 90%, Pilot 10%
Modulation frequency .....1kHz(Pilot 19kHz)
Output level 66dB



•ADJUSTMENT POINTS



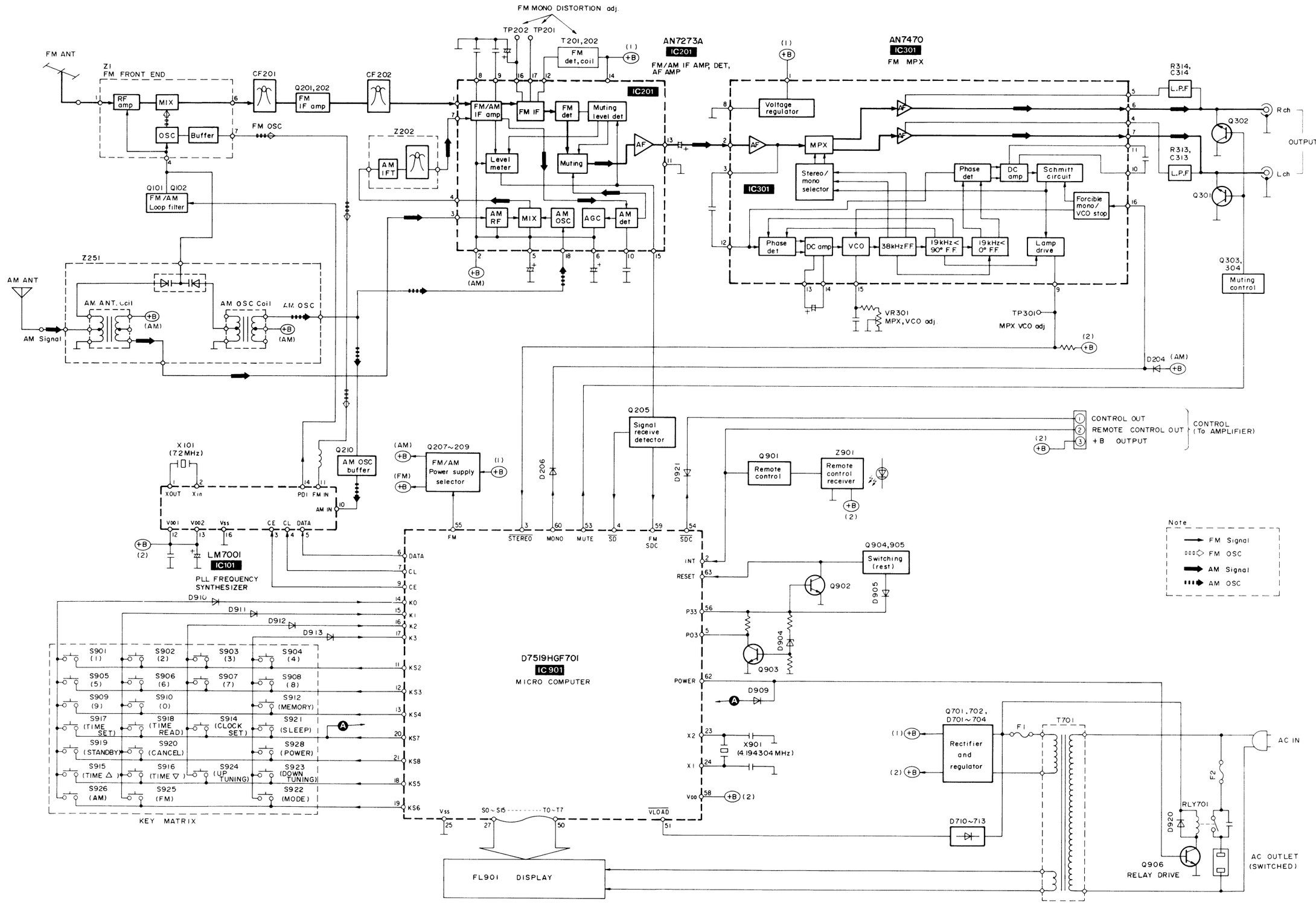
■ BLOCK DIAGRAM



mode 90%,
z)

tortion analyser

■ BLOCK DIAGRAM



ST-X999 ST-X999

5 6 7 8 10 12 13 14

IC101 LM7001 PLL FREQUENCY SYNTHESIZER

IC201 AN7273A FM/AM IF AMP DET, AF AMP

IC301 AN7470 FM MPX

Q208, 209 2SA933SQRSTA POWER SUPPLY (FM/AM)

Q207 2SC1740SQSTA POWER SUPPLY (FM/AM)

Q210 2SC1740SQSTA BUFFER AMP (AM OSC)

Q901 2SC1740SQSTA SWITCHING (REMOTE CONT.)

Q304 2SA933SQRSTA MUTING CONT.

Q205 2SC1740SQSTA SIGNAL RECEIVE DETECTOR

Q905 2SA933SQRSTA RESET

Q902 2SC1740SQSTA SWITCHING

Q903 2SC2787LTA VOLTAGE DETECTION

Q904 2SC1740SQSTA POWER FAILURE DETECTION

Q906 2SC1740SQSTA RELAY DRIVE

Q701 2SC3940AQSTA REGULATOR

Q702 2SC1685RST REGULATOR

Q301,302 2SD1450RSTA MUTING

Q303 2SA933SQRSTA MUTING CONT.

IC901 D7519HGF701 MICRO COMPUTER

FL901 (SADFV273G) FL DISPLAY

AM OSC

FM +B LINE

AM +B LINE

FM offset voltage (0mV)

FM mono distortion adj.

MPX VCO adj

AF signal

OUTPUT

L ch

R ch

TP301 19kHz output

TP201

TP202

TP901

TP902

PLL clock frequency

Key Return Signal 4.0V 0 2V/1msec div.

Key Scan Signal 4.8V 0 2V/1msec div.

No Signal "H" Received Signal "L" H → 4.7V L → 0V

4.7V 0V For cible mono mode.

Segment Signal 4V 0V -30V 20V/0.5msec div.

Grid Signal 4V 0V -30V 20V/0.5msec div.

Muting Output 5V 0

JK901

CONTROL OUT

REMOTE CONTROL OUT

+B OUT

CONTROL (To AMPLIFIER)

JK701

AC 220V (50/60Hz)

AC OUTLET (SWITCHED)

RLY701

F1 T400mA

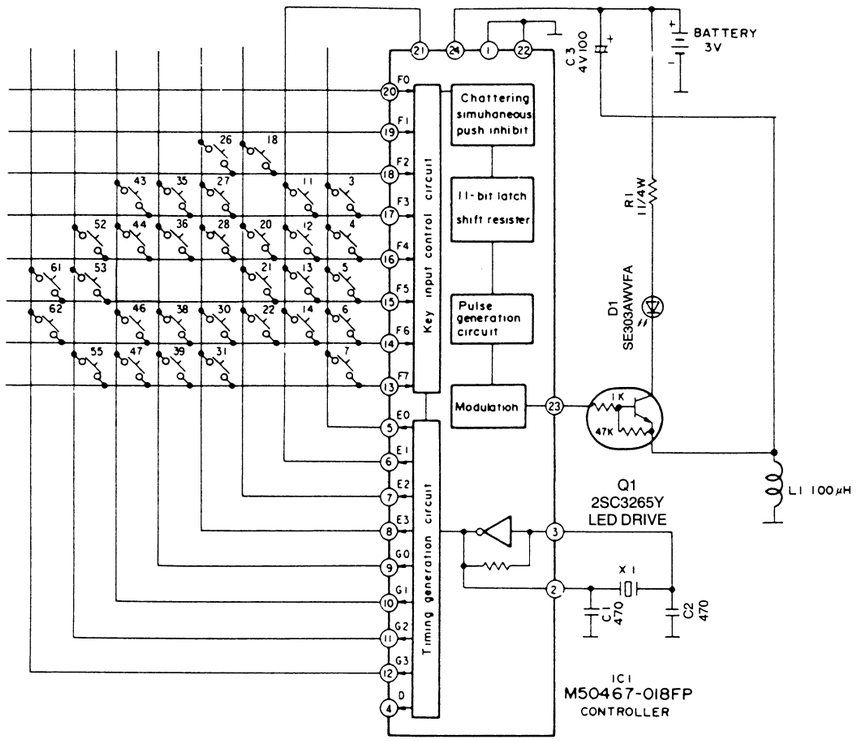
F2 T2.5A

T701

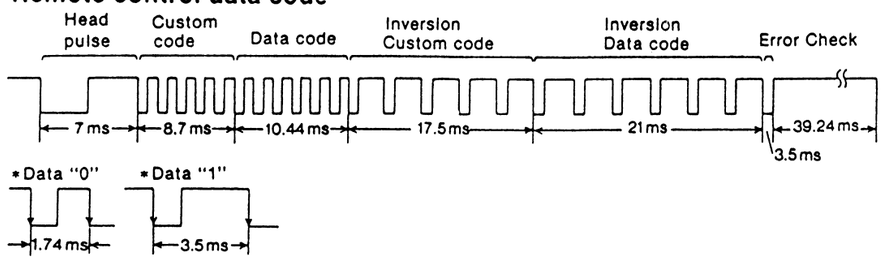
L701

D710,711 1SS254TA

•Remote control unit



• Remote control data code



Key No.	Function	Custom code	Data code	Key No.	Function	Custom code	Data code
3	Auto rec mute	01001	000111	30	Tuner 8	01001	010111
4	Deck play ◄	01001	001001	31	Tuner 1	01001	010000
5	Vol. up	01001	100100	35	CD • skip/search	01100	000010
6	Tuner 5	01001	010100	36	Pause	01001	000110
7	Power ON/OFF	01001	100000	38	Tuner 9	01001	011000
11	CD play/pause	01100	001010	39	Tuner 2	01001	010001
12	Deck play ►	01001	001010	43	CD • skip/search	01100	000011
13	Vol. Down	01001	100101	44	Deck stop	01001	000000
14	Tuner 6	01001	010101	46	Tuner 0	01001	011001
18	Turntable start	01001	001100	47	Tuner 3	01001	010010
20	Deck ◄◄	01001	000010	52	Rec	01001	001000
21	Muting	01001	100111	53	Deck A/B	01001	000100
22	Tuner 7	01001	010110	55	Tuner 4	01001	010011
26	Turntable stop	01001	001101	61	EQ • OF/FLAT	01001	110000
27	CD stop	01100	000000	62	EQ Preset	01001	110010
28	Deck ►►	01001	000011				

■ SCHEMATIC DIAGRAM (Parts list on page 19~22)

(This schematic diagram may be modified at any time with the development of new technology.)

Note 1:

- •S901~S910 : Preset tuning switches.
  (S901: CH1, S902: CH2, S903: CH3, S904: CH4, S905: CH5, S906: CH6, S907: CH7, S908: CH8, S909: CH9, S910: CH0)
- •S912 : Memory switch.
- •S914 : Clock set switch.
- •S915~S921 : Timer operation switches.
  (S915: SELECT(▲), S916: SELECT(▼) S917: SET, S918: READ, S919: STANDBY S920: CANCEL, S921: SLEEP)
- •S922 : FM mode selector switch.
- •S923, S924 : Tuning switches.
  S923: DOWN, S924: UP
- •S925, S926 : Band selector switches.
  S925: FM, S926: MW
- •S928 : Power switch.

• Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester. ( ): AM voltage

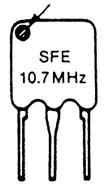
• ——— Positive voltage lines ····· AF signal lines
▭▭▭▷ FM OSC ═══▷ FM signal
▬▬▬▶ AM OSC ━━━▶ AM signal

• Important safety notice
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

Note 2:

• Use of ceramic filters in pairs
The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.
At repairing and replacement, pay close attention to the diodes (D915, D914) for use as different diodes must be used depending on each rank of the ceramic filters.

Color marking
(Red, Black or White)



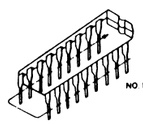
RANK (Color)	D915	D914	CENTER FREQUENCY
Orange	○	×	10.72 MHz
Red	×	×	10.70 MHz
Blue	×	○	10.67 MHz

Note: ○ mark: Diode is used.
× mark: Diode is not used.

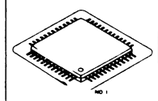
✻ Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
✻ Cover the parts boxes made of plastics with aluminum coil.
✻ Ground the soldering iron.
✻ Put a conductive mat on the work table.
✻ Do not touch the legs of IC or LSI with the fingers directly.

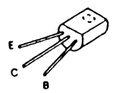
■ TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES



AN7470	16 Pin
LM7001	16 Pin
AN7273A	18 Pin

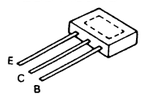


D7519HGF701 | 64 pin

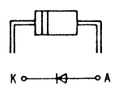


2SC3940A-Q
2SC2787L
2SC1685RST

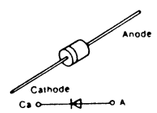
2SC2603EFG
2SC1740SQ
2SC933SQR
2SD1450RS

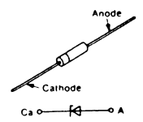


ISR35200



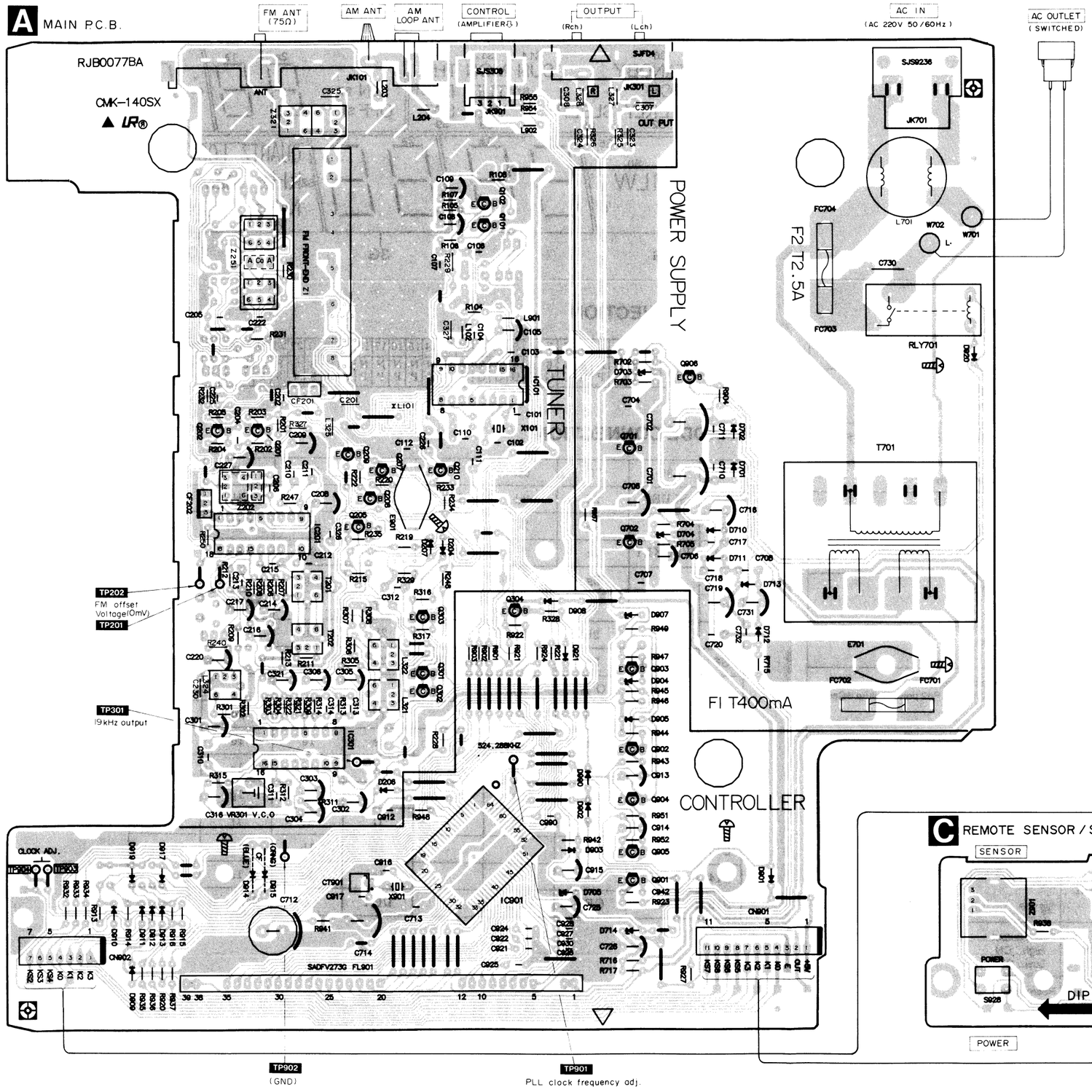
MA165, MA150LF
MA700A, 1SS254





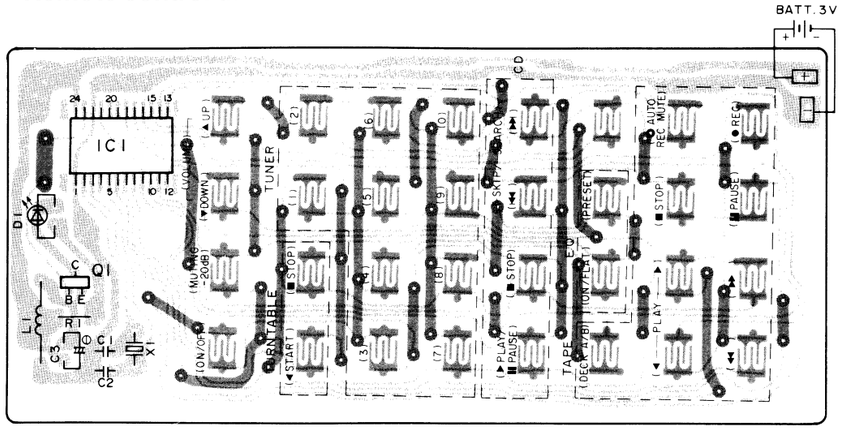
MA4051M,
MA4062M,
MA4150M
MA4330L
MA4043M
MA4100M

■ CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM (Parts list on pages 19~22)



CENTER FREQUENCY
10.72 MHz
10.70 MHz
10.67 MHz

●Remote control unit



■ FUNCTIONS OF IC TERMINALS

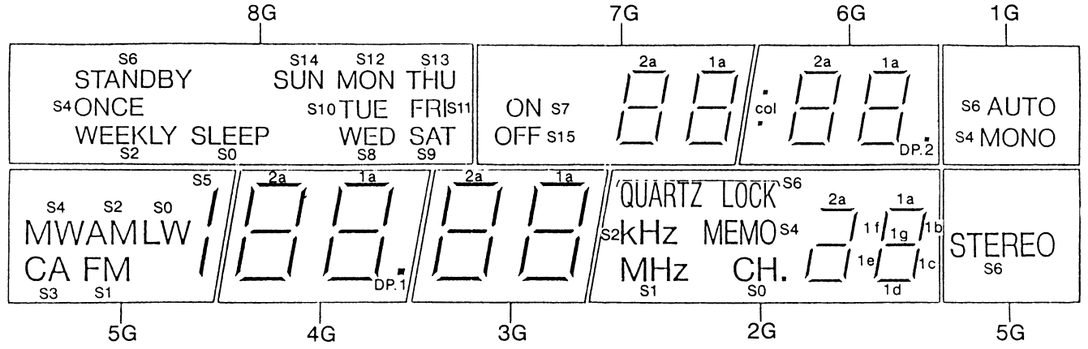
●IC901 (D7519HGF701) MICRO COMPUTER

Pin No.	Terminal Name	Symbol	Function
1	NC	———	———
2	INT0	INT	Remote-control input Leading edge
3	P01	STEREO	Stereo input Active Low
4	P02	SD	Station detector input Active Low
5	P03		Voltage detector input Active High
6	P60	SO	Serial data output
7	P61	SCK	Serial clock output
8	P62		Power failure detection Active Low
9	P63	KS0, CE	Key source output and CE for serial transfer
10 ~ 13	P50 ~ P53	KS1 ~ KS4	Key source output Active High
14 ~ 17	P10 ~ P13	K0 ~ K3	Key return signal input Active High
18 ~ 21	P40 ~ P43	KS5 ~ KS8	Key source output Active High
22	EVENT	NC	Non-Connection Connected to non-connection Vss
23 24	X2 X1	X2 X1	Crystal oscillator 4.19 MHz
25	Vss	GND	GND terminal
26	VDD	VDD	Power terminal 5 V±10%
27 ~ 34	S7 ~ S0	S7 ~ S0	Segment output for FIP High withstand voltage output terminal
35 ~ 42	S15 ~ S8	S15 ~ S8	Segment output for FIP High withstand voltage output terminal

Pin No.	Terminal Name	Symbol	Function
43 ~ 50	T7 ~ T0	T7 ~ T0	Digit output for FIP High withstand voltage output terminal
51	VLOAD	VLOAD	Pull-down resistance common terminal for FIP −30 V
52	VPRE	VPRE	Power aupply for pre-driver
53	P30	MUTE	Muting output Active Low
54	P31	SDC	DTS selective output Active Low
55	P32	FM	FM selective output High...FM Low...AM
56	P33		HALT mode output Active High
57	INT1	INT1	HALT mode (backup) reset Connected in parallel to P62 power failure detector terminal
58	VDD	VDD	Power terminal (same as pin 26)
59	P20	FMSDC	FM simultaneous SD circuit control output (only auto tuning and auto scan memory) Active High
60	P21	MONO	FM forced monaural output High...Forced MONO Low...AUTO
61	P22	PCL	Measuring terminal for internal system clock to count $\frac{f_x}{16}=f_0$
62	P23	POWER	Power output High...ON Low...OFF
63	RESET	RESET	Reset terminal
64	PPO	TIMER POWER	High with timer power ON→HIGH Low with timer power OFF→LOW Active High

■ DESCRIPTION OF FL PANEL

●GRID ASSIGNMENT



●PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
CONNECTION	F1	F1	NP	NP	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP	NP	NP	NP	NP	NP	S6	S5	S4	S3	S2	S1	S0	S8	S9	S10	S11	S12	S13	S14	S15	S7	NP	NP	F2	F2

●ANODE CONNECTION

	8G	7G	6G	5G	4G	3G	2G	1G
S0	SLEEP	2d	2d	LW	2d	2d	CH.	-
S1	-	2e	2e	FM	2e	2e	MHz	-
S2	WEEKLY	2c	2c	AM	2c	2c	kHz	-
S3	-	2g	2g	CA	2g	2g	2c	-
S4	ONCE	2f	2f	MW	2f	2f	MEMO	MONO
S5	-	2b	2b		2b	2b	2b	-
S6	STANDBY	2a	2a	STEREO	2a	2a	QUARTZ LOCK	AUTO
S7	-	O N	col	-	-	-	-	-
S8	WED	1d	1d	-	1d	1d	1d	-
S9	SAT	1e	1e	-	1e	1e	1e	-
S10	TUE	1c	1c	-	1c	1c	1c	-
S11	FRI	1g	1g	-	1g	1g	1g	-
S12	MON	1f	1f	-	1f	1f	1f	-
S13	THU	1b	1b	-	1b	1b	1b	-
S14	SUN	1a	1a	-	1a	1a	1a	-
S15	-	OFF	DP,2	-	DP,1	-	2a,d,e,g	-

■ RE

Notes : * Im
Co
ma

Numbering S

Example:

ERD	2
Type	Watt (1/4

ERX	2
Type	Watt (2

Numbering Sy

Example:

ECKD	1
Type	Volt (50

ECEA	5
Type	Volt (50

● Capacity va otherwise, F
● Resistance otherwise,

Ref. No.	
R104	ER
R105	ER
R106	ER
R107	ER
R108	ER
R201	ER
R202	ER
R203	ER
R204	ER
R205	ER
R206	ER
R207	ER
R208	ER
R209	ER
R210	ER
R211	ER
R212	ER
R213	ER
R215	ER
R219	ER
R220	ER
R221	ER
R222	ER
R228	ER
R229	ER

■ RESISTORS AND CAPACITORS

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

Numbering System For Resistors

Example:

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1KΩ)
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470Ω)

Numbering System For Capacitors

Example:

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001μF)	Tolerance	Unique
ECEA	50	M	330	
Type	Voltage (50V)	Characteristics	Value (33μF)	

- Capacity values are in microfarads (μF) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).
- Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000Ω, 1M = 1,000kΩ

Resistor Type		Wattage		Tolerance
ERD	: Carbon	10 : 1/8W	12 : 1/2W	J : ±5%
ERG	: Metal Oxide	14 : 1/4W	25 : 1/4W	F : ±1%
ERQ	: Fuse Type Metal	1A : 1W	18 : 1/8W	G : ±2%
ERX	: Metal Film	S2 : 1/4W	S1 : 1/2W	J : ±5%
ERD L	: Carbon (chip)	2F : 1/4W	50 : 1/2W	K : ±10%
ERO K	: Metal Film (chip)	2A : 2W	3A : 3W	M : ±20%
ERC	: Solid	6G : 1/10W	8G : 1/8W	
ERF	: Incombustible Box-Shaped			
ERM	: Wire-Wound			
RRJ	: Chip Resistor			
ERJ	: Chip Resistor			

Capacitor Type		Voltage		Tolerance
ECE	: Electrolytic	0J : 6.3V	1A : 10V	K : ±10%
ECCD	: Ceramic	1C : 16V	1E : 25V	M : ±20%
ECKD	: Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % −20
ECQM	: Polyester	50 : 50V	05 : 50V	J : ±5%
ECQP	: Polypropylene	2H : 500V	2A : 100V	G : ±2%
ECG	: Ceramic	1 : 100V	1J : 63V	F : ±1%
ECEA N	: Non Polar Electrolytic	KC : 400V AC		C : ±0.25pF
QCU	: Ceramic (Chip Type)	KC : 125V AC (UL)		D : ±0.5pF
ECUX	: Ceramic (Chip Type)			
ECF	: Semiconductor			
EECW	: Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Part Name & Description	Remarks
		RESISTORS	
R104	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R105	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R106	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R107	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R108	ERDS2TJ391T	C. RESISTOR 1/4W 390	
R201	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R202	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R203	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R204	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R205	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R206	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R207	ERDS2TJ822T	C. RESISTOR 1/4W 8.2K	
R208	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R209	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R210	ERDS2TJ332T	C. RESISTOR 1/4W 3.3K	
R211	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R212	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R213	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R215	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R219	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R220	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R221	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R222	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R228	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R229	ERDS2TJ102T	C. RESISTOR 1/4W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R230	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R231	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R232	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R233	ERDS2TJ684T	C. RESISTOR 1/4W 680K	
R234	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R235	ERDS2TJ471T	C. RESISTOR 1/4W 470	
R240	ERDS2TJ152T	C. RESISTOR 1/4W 1.5K	
R247	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R248	ERDS2TJ472T	C. RESISTOR 1/4W 4.7K	
R250	ERDS2TJ561T	C. RESISTOR 1/4W 560	
R301	ERDS2TJ393T	C. RESISTOR 1/4W 39K	
R302	ERDS2TJ151T	C. RESISTOR 1/4W 150	
R303	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R304	ERDS2TJ223T	C. RESISTOR 1/4W 22K	
R305	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R306	ERDS2TJ272T	C. RESISTOR 1/4W 2.7K	
R307	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R308	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R309	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R311	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R312	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R313	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R314	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R315	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R316	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R317	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R321	ERDS2TJ153T	C. RESISTOR 1/4W 15K	
R322	ERDS2TJ153T	C. RESISTOR 1/4W 15K	

Ref. No.	Part No.	Part Name & Description	Remarks
R325	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R326	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R327	ERDS2TJ183T	C. RESISTOR 1/4W 18K	
R328	ERDS2TJ473T	C. RESISTOR 1/4W 47K	
R329	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R702	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R703	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R704	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R705	ERDS2TJ221T	C. RESISTOR 1/4W 220	
R715	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R716	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R717	ERDS2TJ101T	C. RESISTOR 1/4W 100	
R901	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R902	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R903	ERDS2TJ222T	C. RESISTOR 1/4W 2.2K	
R904	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R913	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R914	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R915	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R916	ERDS2TJ154T	C. RESISTOR 1/4W 150K	
R920	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R921	ERDS2TJ333T	C. RESISTOR 1/4W 33K	
R922	ERDS2TJ103T	C. RESISTOR 1/4W 10K	
R923	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R924	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R927	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R932	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R933	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R934	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R935	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R936	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R937	ERDS2TJ562T	C. RESISTOR 1/4W 5.6K	
R938	ERDS2TJ563T	C. RESISTOR 1/4W 56K	
R941	ERDS2TJ331T	C. RESISTOR 1/4W 330	
R942	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R943	ERDS2TJ122T	C. RESISTOR 1/4W 1.2K	
R944	ERDS2TJ824T	C. RESISTOR 1/4W 820K	
R945	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R946	ERDS2TJ124T	C. RESISTOR 1/4W 120K	
R947	ERDS2TJ274T	C. RESISTOR 1/4W 270K	
R948	ERDS2TJ273T	C. RESISTOR 1/4W 27K	
R949	ERDS2TJ474T	C. RESISTOR 1/4W 470K	
R951	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R952	ERDS2TJ104T	C. RESISTOR 1/4W 100K	
R954	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R955	ERDS2TJ102T	C. RESISTOR 1/4W 1K	
R957	ERDS2TJ561T	C. RESISTOR 1/4W 560	
		CAPACITORS	
C101	RCBS1H150JCY	C. CAPACITOR 50V 15P	
C102	RCBS1H150JCY	C. CAPACITOR 50V 15P	

Ref. No.	Part No.	Part Name & Description	Remarks
C103	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C104	RCBS1H181KBY	C. CAPACITOR 50V 180P	
C105	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C106	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C107	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C108	ECEA25M4R7RB	E. CAPACITOR 25V 4.7U	
C109	ECEA1CU330B	E. CAPACITOR 16V 33U	
C110	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C111	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C112	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C201	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C202	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C204	RCBS1H470JLY	C. CAPACITOR 50V 47P	
C205	ECBT1E223ZF5	C. CAPACITOR 25V 0.022U	
C206	RCBS1H150JCY	C. CAPACITOR 50V 15P	
C208	ECEA0JU101B	E. CAPACITOR 6.3V 100U	
C209	ECEA1EK4R7B	E. CAPACITOR 25V 4.7U	
C210	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C211	ECKT1H223ZF	C. CAPACITOR 50V 0.022U	
C212	ECBT1E223ZF5	C. CAPACITOR 25V 0.022U	
C213	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C214	ECEA1CK100B	E. CAPACITOR 16V 10U	
C215	ECBT1E103ZF5	C. CAPACITOR 25V 0.01U	
C216	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C217	ECEA1HK2R2B	E. CAPACITOR 50V 2.2U	
C220	ECEA1CK100B	E. CAPACITOR 16V 10U	
C222	ECFTD473KXL	S. CAPACITOR 25V 0.047U	
C225	RCBS1H180JCY	C. CAPACITOR 50V 18P	
C226	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C227	ECEA1CK100B	E. CAPACITOR 16V 10U	
C230	RCBS1H471KBY	C. CAPACITOR 50V 470P	
C301	ECEA1CU101B	E. CAPACITOR 16V 100U	
C302	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C303	ECEA1HK010B	E. CAPACITOR 50V 1U	
C304	ECEA1VK3R3B	E. CAPACITOR 35V 3.3U	
C305	ECEA1VK3R3B	E. CAPACITOR 35V 3.3U	
C306	ECEA1VK3R3B	E. CAPACITOR 35V 3.3U	
C307	ECFTD392KXL	S. CAPACITOR 25V 3900P	
C308	ECFTD392KXL	S. CAPACITOR 25V 3900P	
C310	ECFTD473KXL	S. CAPACITOR 25V 0.047U	
C311	ECQP1471JZ3	P. CAPACITOR 100V 470P	
C312	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C313	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C314	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C316	ECEA1HKR47B	E. CAPACITOR 50V 0.47U	
C321	ECEA1CK100B	E. CAPACITOR 16V 10U	
C323	ECFTD332KXL	S. CAPACITOR 25V 3300P	
C324	ECFTD332KXL	S. CAPACITOR 25V 3300P	
C325	RCBS1H330JLY	C. CAPACITOR 50V 33P	
C326	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C327	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C701	ECEA1CU222E	E. CAPACITOR 16V 2200U	

Ref. No.	Part No.	Part Name & Description	Remarks
C702	ECEA1CU102E	E. CAPACITOR 16V 1000U	
C704	ECBT1H102KB5	C. CAPACITOR 50V 1000P	
C705	ECEA1CU221B	E. CAPACITOR 16V 220U	
C706	ECEA1CK100B	E. CAPACITOR 16V 10U	
C707, 708	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C710	ECKT2H102ZF	C. CAPACITOR 500V 1000P	
C711	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C712	EECF5R5U473	E. CAPACITOR 5.5V 0.047F	
C713	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C714	ECEA0JU102B	E. CAPACITOR 6.3V 1000U	
C716	ECEA1VU330B	E. CAPACITOR 35V 33U	
C717, 718	ECKT2H102ZF	C. CAPACITOR 500V 1000P	
C719	ECEA1EU101B	E. CAPACITOR 25V 100U	
C720	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	

Ref. No.	Part No.	Part Name & Description	Remarks
C725	ECEA1VU101B	E. CAPACITOR 35V 100U	
C726	ECEA1VU330B	E. CAPACITOR 35V 33U	
C730	ECKWNS103ZVS	C. CAPACITOR 250V 0.01U	⚠
C731	ECEA1HU330B	E. CAPACITOR 50V 33U	
C732	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C912	ECKT1H103ZF	C. CAPACITOR 50V 0.01U	
C913	ECEA1CK100B	E. CAPACITOR 16V 10U	
C914	ECEA1HK010B	E. CAPACITOR 50V 1U	
C915	ECEA1VK3R3B	E. CAPACITOR 35V 3.3U	
C916	RCBS1H120JCY	C. CAPACITOR 50V 12P	
C917	RCBS1H5R6KCY	C. CAPACITOR 50V 5.6P	
C921~930	RCBS1H101KBY	C. CAPACITOR 50V 100P	
C942	RCBS1H181KBY	C. CAPACITOR 50V 180P	
C990	ECBT1H102KB5	C. CAPACITOR 50V 1000P	

■ REPLACEMENT PARTS LIST

Notes : * Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
* Remote Control Ass'y:
Supply period for three years from termination of production.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUITS	
IC101	LM7001	IC, PLL FREQUENCY	
IC201	AN7273A	IC, FM/AM IF AMP	
IC301	AN7470	IC, FM MPX	
IC901	D7519HGF701	IC, MICRO COMPUTER	
		TRANSISTORS	
Q101, 102	2SC2603EFGTA	TRANSISTOR	
Q201, 202	2SC2787LTA	TRANSISTOR	
Q205, 207	2SC1740SQSTA	TRANSISTOR	
Q208, 209	2SA933SQRSTA	TRANSISTOR	
Q210	2SC1740SQSTA	TRANSISTOR	
Q301, 302	2SD1450RSTA	TRANSISTOR	
Q303, 304	2SA933SQRSTA	TRANSISTOR	
Q701	2SC3940AQSTA	TRANSISTOR	
Q702	2SC1685RST	TRANSISTOR	
Q901	2SC1740SQSTA	TRANSISTOR	
Q902	2SC1740SQSTA	TRANSISTOR	
Q903	2SC2787LTA	TRANSISTOR	
Q904	2SC1740SQSTA	TRANSISTOR	
Q905	2SA933SQRSTA	TRANSISTOR	
Q906	2SC1740SQSTA	TRANSISTOR	
		DIODES	

Ref. No.	Part No.	Part Name & Description	Remarks
D204	1SS254TA	DIODE	
D206	1SS254TA	DIODE	
D207	1SS254TA	DIODE	
D701, 702	1SR35200TB	DIODE	⚠
D703	MA4150MTA	DIODE	
D704	MA4062MTA	DIODE	
D705	MA4330LTA	DIODE	
D710	1SS254TA	DIODE	
D711	1SS254TA	DIODE	
D712	1SS254TA	DIODE	
D713	1SS254TA	DIODE	
D714	MA4051MTA	DIODE	
D901	1SS254TA	DIODE	
D902	MA165TA	DIODE	
D903	1SS254TA	DIODE	
D904	MA4043MTA	DIODE	
D905	MA700ATA	DIODE	
D907	MA4100MTA	DIODE	
D908	1SS254TA	DIODE	
D909	1SS254TA	DIODE	
D910	1SS254TA	DIODE	
D911	1SS254TA	DIODE	
D912	1SS254TA	DIODE	
D913	1SS254TA	DIODE	
D914, 915	MA150LF	DIODE	
D917	1SS254TA	DIODE	
D919	1SS254TA	DIODE	
D920	1SS254TA	DIODE	

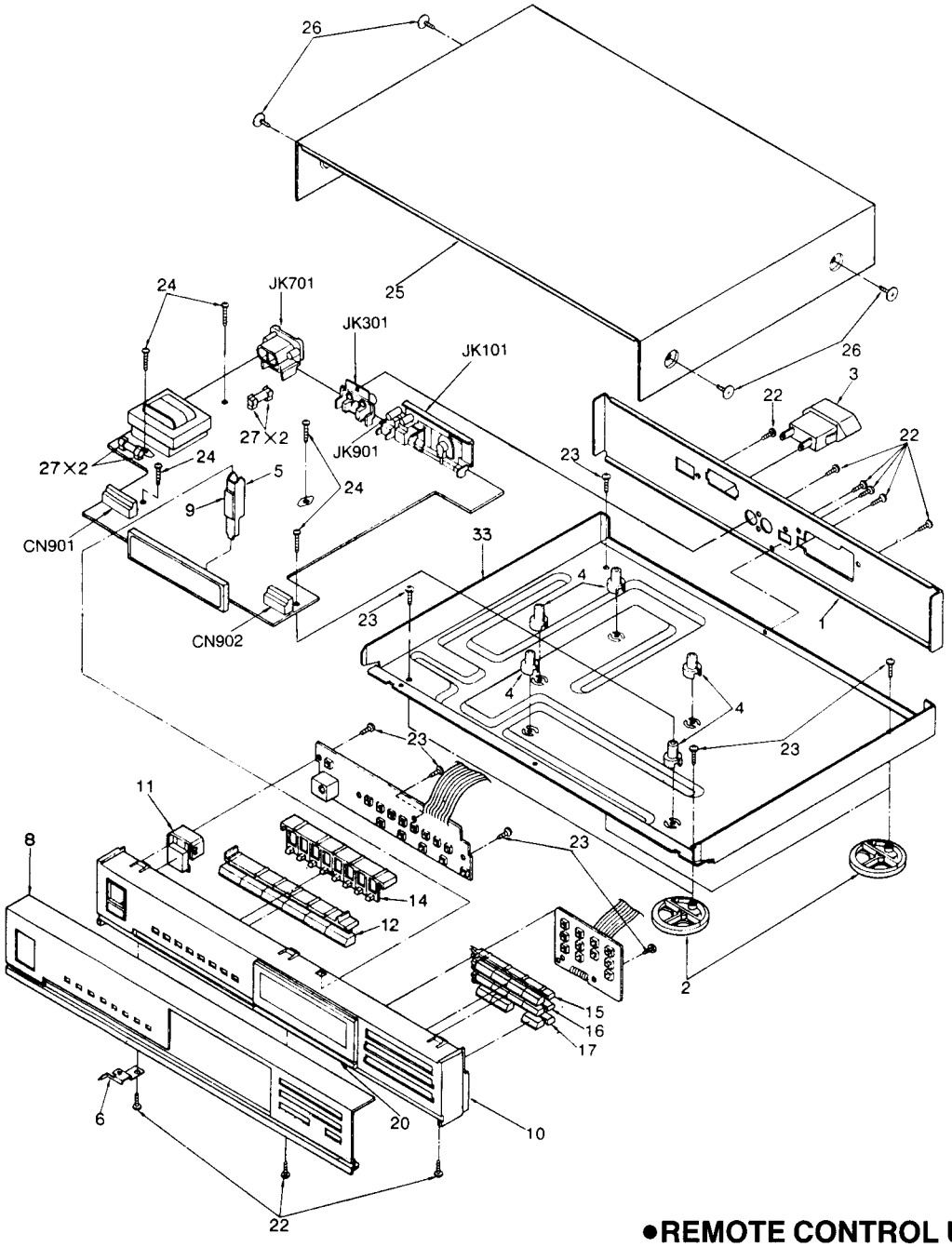
Ref. No.	Part No.	Part Name & Description	Remarks
D921	1SS254TA	DIODE	
D990	MA700ATA	DIODE	
		VARIABLE RESISTORS	
VR301	EVNDXAA00B53	V. R, FM MPX VCO ADJ.	
		COMPONENT COMBINATIONS	
Z1	SNVFE337G01	TUNER PACK	
Z202	SLI7Z101-T	COMPONENT COMBINATION	
Z251	SLA2Z1-T	COMPONENT COMBINATION	
Z321	SLA4Z13-Z	COMPONENT COMBINATION	
Z901	A1QH3029H0	COMPONENT COMBINATION	
		COILS	
L102	RLQZP1R2KT-Y	COIL	
L203	ELEPK1R0MA	COIL	
L204	ELEPK1R0MA	COIL	
L321	SLM1B9-P	COIL	
L322	SLM1B9-P	COIL	
L324	SLM1B10-M	COIL	
L325	RLQZP1R2KT-Y	COIL	
L327	ELEPK1R0MA	COIL	
L328	ELEPK1R0MA	COIL	
L701	SLQZ650MH49	COIL	⚠
L901	RLQZP101KT-Y	COIL	
L902	RLQZP101KT-Y	COIL	
		TRANSFORMERS	
T201	RLI4B002-Z	TRANSFORMER	
T202	RLI4B003-Z	TRANSFORMER	
T701	SLT5K262-K	POWER TRANSFORMER	⚠
		OSCILLATORS	
X101	SVQ49U722T-S	OSCILLATOR	
X901	SVQ49U422T-S	OSCILLATOR	
		SWITCHES	
S901	EVQQB005R	1	
S902	EVQQB005R	2	
S903	EVQQB005R	3	
S904	EVQQB005R	4	
S905	EVQQB005R	5	
S906	EVQQB005R	6	
S907	EVQQB005R	7	
S908	EVQQB005R	8	
S909	EVQQB005R	9	

Ref. No.	Part No.	Part Name & Description	Remarks
S910	EVQQB005R	0	
S912	EVQQB005R	MEMORY	
S914	EVQQB005R	CLOCK SET	
S915	EVQQB005R	SELECT	
S916	EVQQB005R	SELECT	
S917	EVQQB005R	SET	
S918	EVQQB005R	READ	
S919	EVQQB005R	STAND-BY	
S920	EVQQB005R	CANCEL	
S921	EVQQB005R	SLEEP	
S922	EVQQB005R	FM MODE	
S923	EVQQB005R	TUNING, DOWN	
S924	EVQQB005R	TUNING, UP	
S925	EVQQB005R	BAND, FM	
S926	EVQQB005R	BAND, MW	
S928	EVQQB005R	POWER	
		CERAMIC FILTERS	
CF201	SVFE107MZ2-A	CERAMIC FILTER	(RED)
CF201	SVFE107MZ2-B	CERAMIC FILTER	(BLUE)
CF201	SVFE107MZ2-C	CERAMIC FILTER	(ORANGE)
CF202	SVFE107MM-A	CERAMIC FILTER	(RED)
CF202	SVFE107MM-B	CERAMIC FILTER	(BLUE)
CF202	SVFE107MM-C	CERAMIC FILTER	(ORANGE)
		JACKS	
JK101	SJF8305N	TERMINAL BOARD, ANT	
JK301	SJFD4	TERMINAL BOARD, IN/OUT	
JK701	SJS9236	AC INLET	⚠
JK901	RJS1A0203-0M	SOCKET(3P), TO AMP	
CN901	SJT31143-V	CONNECTOR(11P)	
CN902	SJT30743-V	CONNECTOR(7P)	
		VARIABLE CAPACITOR	
CT901	ECRLA010A52	VARIABLE CAPACITOR	
		DISPLAY	
FL901	SADFV273G	DISPLAY TUBE	
		RELAY	
RLY701	SSY138	RELAY	⚠
		FUSES	
F1	XBA2C04TB0	FUSE 250V T0.4A	⚠
F2	XBA2C25TB0	FUSE 250V T2.5A	⚠

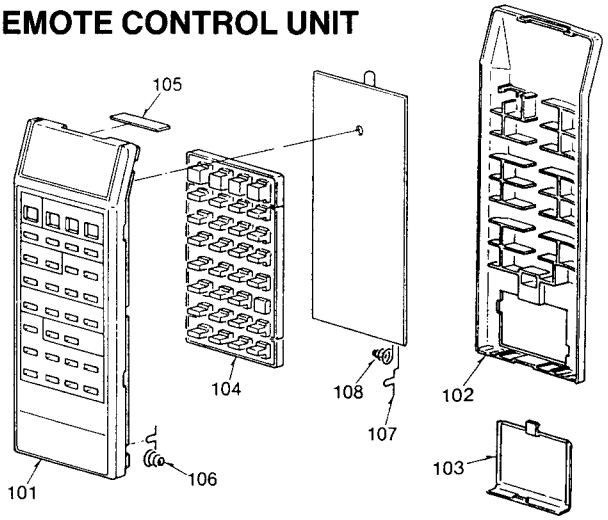
Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	SGP7360F	REAR PNEL	
2	SKL307	FOOT	
3	SJS9225	AC OUTLET	⚠
4	SHE181	P. C. B. HOLDER	
5	SUW3102	BRACKET	
6	SUS874	SPRING	
8	RYP0083	FRONT PANEL	
9	SHG6390	RUBBER SPACER	
10	SGXTX990-KG	FRONT GRILLE	
11	SBC986	BOTTON, POWER	
12	SBZ9107	BOTTON, SELECTOR	
14	SBC988	BOTTON, TIMER	
15	SBC989D	BOTTON, PRESET	
16	SBC989E	BOTTON, PRESET	
17	SBZ9104	BOTTON, PRESET	
20	SGX7971A	ORNAMENT	
22	XTBS3+8JFZ1	SCREW	
23	XTB3+8G	SCREW	
24	XTB3+20J	SCREW	
25	SKC2061K16	CABINET	
26	SNE2129-1	SCREW	
27	SJT390	FUSE HOLDER	⚠
33	SKU11651-4	BOTTOM BOARD	
		REMOTE CONTROLLER	
IC1	M50467018FP	IC, CONTROLL SIGNAL	
Q1	2SC3265Y	TRANSISTOR	
D1	SE303AWVFA	L. E. D	
L1	ELEA101JA	COIL	
X1	CSB420PB6	OSCILLATOR	

Ref. No.	Part No.	Part Name & Description	Remarks
R1	ERD25TLJ1R0U	RESISTOR	
C1, 2	ECUV1H471KCG	C. CAPACITOR 50V 470P	
C3	ECEA0GK101	E. CAPACITOR 4V 100UF	
101	UR64VCS566	UPPER CABINET	
102	UR64CS803A	LOWER CABINET	
103	UR64EC804	BATTERY COVER	
104	UR64CT805	RUBBER SWITCH	
105	UR52SB327	SMOKE PLATE	
106	UR64TD374	BATTERY TERMINAL (+, -)	
107	UR64TD808	BATTERY TERMINAL (+)	
108	UR64TD809	BATTERY TERMINAL (-)	
		PACKING MATERIAL	
P1	RPG0188	PACKING CASE	
P2	SPS5169	PAD	
P3	SPS5170	PAD	
P4	SPS5073	PAD	
P5	SPP740	PROTECTION COVER	
		ACCESSORIES	
A1	RQF0095	INSTRUCTIONS MANUAL	
A2	SFDAC05E03	POWER CORD	⚠
A3	SJPK2203-1	STEREO PIN CORD	
A4	SPB1162T	AM LOOP ANTENNA	
A4-1	SMA233-1M	HOLDER	
A4-2	SMA231M	HOLDER	
A4-3	XTB3+10AFZ	SCREW	
A5	SSA270M	FM ANTENNA	
A6	SWKTX930E	LEAD WIRE	
A101	EUR64754	REMOTE CONTROLLER	

■ EXPLODED VIEWS (Parts list on page 23)



●REMOTE CONTROL UNIT



Printed in Japan
F890402400 TW/FF/YY